THAT WHICH IS CLAIMED IS:

1. A catalyst system composition comprising:

a) a polymerization catalyst system comprising a chromium component supported on a silica-titania-type support; and

b) a cocatalyst selected from the group consisting of i) alkyl lithium compounds, ii) dialkyl aluminum alkoxides in combination with at least one metal alkyl selected from the group consisting of alkyl zinc compounds, alkyl aluminum compounds, alkyl boron compounds, and mixtures thereof and iii) mixtures thereof.

2. A composition according to claim 1 wherein said support is a cogel of silica compound and a titanium compound.

3. A composition according to claim 2 wherein said support comprises at least 80 weight percent silica.

4. A composition according to claim 1 wherein said polymerization catalyst system is calcined in an oxygen-containing ambient for a time within a range of 30 minutes to about 50 hours at a temperature within a range of about 400 to about 900°C.

5. A composition according to claim 4 wherein said calcined polymerization catalyst system is contacted with a reducing agent under

conditions sufficient to convert at least a substantial portion of the chromium component to divalent chromium.

6. A composition according to claim 5 wherein said reducing agent is carbon monoxide.

7. A composition according to claim 1 wherein said cocatalyst is an alkyl lithium compound and is a trihydrocarbyl lithium compound.

8. A composition according to claim 7 wherein the alkyl groups on said alkyl lithium compound have from about 1 to about 12 carbon atoms per alkyl group.

9. A composition according to claim 8 wherein said alkyl lithium compound is selected from the group consisting of tri-n-butyllithium, tripropyl lithium, triethyl lithium, and mixtures thereof.

10. A composition according to claim 1 wherein said alkyl lithium compound is present in an amount sufficient to decrease melt index, decreased high load melt index, and decrease fluff bulk density of a resultant polymer.

11. A composition according to claim 1 wherein said lithium compound is used in an amount so as to give an atom ratio of lithium metal to

active chromium catalyst component within a range of about 0.5:1 to about 10:1.

12. A composition according to claim 1 wherein said cocatalyst is a dialkyl aluminum alkoxide in combination with at least one metal alkyl selected from the group consisting of alkyl zinc compounds, alkyl aluminum compounds, alkyl boron compounds, and mixtures thereof and iii) mixtures thereof.

13. A composition according to claim 12 wherein said metal alkyl is an alkyl zinc compound.

14. A composition according to claim 13 wherein said alkyl zinc compound is diethyl zinc.

15. A composition according to claim 12 wherein said metal alkyl is an alkyl aluminum compound.

16. A composition according to claim 15 wherein said alkyl aluminum compound is triethyl aluminum.

17. A composition according to claim 12 wherein said metal alkyl is an alkyl boron compound.

18. A composition according to claim 17 wherein said alkyl boron compound is triethylboron.

19. A dual catalyst system composition comprising:

a) a polymerization catalyst system comprising a chromium component supported on a silica-titania-type support and a cocatalyst selected from the group consisting of i) alkyl lithium compounds, ii) dialkyl aluminum alkoxides in combination with at least one metal alkyl selected from the group consisting of alkyl zinc compounds, alkyl aluminum compounds, alkyl boron compounds, and mixtures thereof and iii) mixtures thereof; and

b) a Ziegler-Natta catalyst system containing a metal selected from the group consisting of titanium, vanadium and zirconium wherein said Ziegler-Natta catalyst system has been complexed with an organometallic transition metal halide.

20. A polymerization process comprising contacting at least one mono-1-olefin under polymerization reaction conditions with a polymerization catalyst system composition comprising chromium on a silica-titania-type support and a cocatalyst selected from the group consisting of I) alkyl lithium compounds, ii) dialkyl aluminum alkoxides in combination with at least one metal alkyl selected from the group consisting of alkyl zinc compounds, alkyl aluminum compounds, alkyl boron compounds, and mixtures thereof and iii) mixtures thereof.

21. A process according to claim 20 wherein said mono-1-olefin has from about 2 to about 8 carbon atoms per molecule.

22. A process according to claim 21 wherein said mono-1-olefin is selected from the group consisting of ethylene, propylene, 1-butene, 1-pentene, 1-hexene, 1-octene, and mixtures thereof.

23. A process according to claim 22 wherein said mono-1-olefin is ethylene.

24. A process according to claim 20 wherein a copolymer is produced by polymerizing ethylene and about 0.5 to about 20 mol percent of one or more comonomers selected from the group consisting of mono-1-olefins having from about 3 to about 8 carbon atoms per molecule.

25. A process according to claim 24 wherein said comonomer is selected from the group consisting of propylene, 1-butene, 1-pentene, 1-hexene, 1-octene, 4-methyl-1-pentene, and mixtures thereof.

26. A process according to claim 20 wherein said polymerization is carried out at a temperature within a range of about 66 to about 110°C.

27. A process according to claim 20 wherein a polymer is recovered.

28. A process according to claim 27 wherein said polymer has a density within a range of about 0.935 to about 0.955 g/cc and a high load melt index within a range of about 1 to about 20 g/10 minutes.

29. A polymerization process comprising contacting at least one mono-1-olefin under polymerization reaction conditions with a dual polymerization catalyst system composition comprising

a) chromium on a silica-titania-type support and a cocatalyst selected from the group consisting of i) alkyl lithium compounds, ii) dialkyl aluminum alkoxides in combination with at least one metal alkyl selected from the group consisting of alkyl zinc compounds, alkyl aluminum compounds, alkyl boron compounds, and mixtures thereof and iii) mixtures thereof; and

b) a Ziegler-Natta catalyst system containing a metal selected from the group consisting of titanium, vanadium and zirconium wherein said Ziegler-Natta catalyst system has been complexed with an organometallic transition metal halide, and

recovering a polymer.